



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
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FEB 13 2012

Dolon D. Dunn
Chief, Planning, Environmental and
Regulatory Division
Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, TX 77553-1229

Dear Mr. Dunn:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Draft Supplemental Environmental Impact Statement (DSEIS) prepared by the United States Army Corps of Engineers for the Clear Creek, General Reevaluation Study, Brazoria, Fort Bend, Galveston, and Harris Counties, Texas.

The Clear Creek Flood Control Project was authorized by Congress in the Flood Control Act of 1968. The project extended 31 miles from Clear Lake to the Fort Bend County line. The proposed project includes both conveyance and in-line detention measure along the main stem of Clear Creek and conveyance along three of its tributaries. As part of the environmentally sensitive design the tentatively proposed project encompasses measures to avoid and minimize impacts to habitat including preserving 122 acres of floodplain forest, and reestablishing 33 acres of floodplain forest. Compensation for unavoidable construction impacts would consist of rehabilitating an additional 31 acres of floodplain forest.

Based on our analysis, EPA rates the DSEIS as "EC-2" (Environmental Concerns-Request for Additional Information). EPA has enclosed detailed comments which more clearly identify our concerns.

EPA appreciates the opportunity to review the DSEIS. Please send our office two copies of the Final SEIS when it is sent to the Office of Federal Activities, EPA (Mail Code 2252A), Ariel Rios Federal Building, 1200 Pennsylvania Ave, N.W., Washington, D.C. 20004. Our classification will be published on the EPA website, www.epa.gov, according to our responsibility under Section 309 of the CAA to inform the public of our views on the proposed Federal action. If you have any questions or concerns, please contact Michael Jansky of my staff at jansky.michael@epa.gov or 214-665-7451 for assistance.

Sincerely,

Rhonda Smith
Chief, Office of Planning
and Coordination

Enclosure

**DETAILED COMMENTS
ON THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT
CLEAR CREEK REEVALUATION STUDY PROJECT
BRAZORIA, FORT BEND, HARRIS AND GALVESTON
COUNTIES, TEXAS**

Background

The Clear Creek Flood Control Project was authorized by Congress in the Flood Control Act of 1968. The project extended 31 miles from Clear Lake to the Fort Bend County line. The proposed project includes both conveyance and in-line detention measure along the main stem of Clear Creek and conveyance along three of its tributaries. As part of the environmentally sensitive design the tentatively proposed project encompasses measures to avoid and minimize impacts to habitat including preserving 122 acres of floodplain forest, and reestablishing 33 acres of floodplain forest. Compensation for unavoidable construction impacts would consist of rehabilitating an additional 31 acres of floodplain forest.

Detailed Comments

Wetlands:

3.9.3 Vegetation Communities: This section mentions wetlands as being associated with forest and prairie communities and that National Wetland Inventory (NWI) maps were used, combined with aerial interpretation using recent aerial imagery and field verification, to characterize wetlands and aquatic habitats for baseline conditions and potential future conditions. However, no wetland specific maps are provided nor is there any wetland baseline information provided other than total acres, wetland types, acres of impact and acres of proposed mitigation. The DSEIS should provide a set of wetland maps along with biological assessment data relative to the condition and function of wetlands present. Also, for regulatory purposes jurisdictional wetland delineation needs to occur both within the project footprint (construction area) and within the area of project's hydrologic influence. 68.7 acres of wetlands are reported to occur in the project area footprint. The DSEIS does not address wetlands that may occur in the areas above and or below the project which may be affected by reduced flooding. Wetlands that may experience reduced flooding could become isolated from the floodplain or reduced in size thus reducing the amount of jurisdictional wetlands. An accounting of any and all such wetlands needs to be included in the DSEIS for evaluation.

4.9.3.2 Waters and Wetlands: Permanent impacts to wetlands are expected to occur in the high flow flood bench areas and that wetlands along the low-flow channel will be preserved and rehabilitated. Wetlands (if present) outside the construction footprint but within the induced flood reduction zone should be assessed for impacts due to changes in hydrology. If such wetlands are found to exist then efforts to avoid, minimize and mitigate impacts should be included in the DSEIS.

5.1.1.2 No Net Loss: As proposed, the mitigation plan calls for rehabilitation and or reestablishment of 31 acres of floodplain forest of which 27.1 acres are existing wetlands. An additional 7.5 acres of existing wetlands will be “preserved, avoided and rehabilitated” for a total of 34.6 wetland acres. Preservation as a form of mitigation fails to achieve “no net loss” as it does not result in a gain of aquatic resource area. Preservation can only aid in protecting the wetlands from future threats. The term reestablishment (restoration) is used in the proposal but there is no specific design or description of where, how and to what extent restoration will occur.

Given that the total mitigation acreage (34.6) proposed is in fact the same as the net remaining wetland acreage after impacts, it appears there is no restoration actually going to occur. The final type of mitigation proposed for the 34.6 acres of existing wetlands is rehabilitation (enhancement). Some credit can be achieved by reconnecting the low flow channel back into the existing cut off meanders (oxbows). Also, the proposed re-vegetation of native hardwoods along the low flow channel should receive some credit. However, EPA believes that more should be done to compensate for impacts. One recommendation that should require a minimal amount of effort would be to restore depressional wetlands within the new high-flow conveyance channel or along the margins of the proposed detention basins in the form of shelves (excavated to the appropriate depth along the margins of the basins). Shallow depressions can be created in the high flow flood channel and the areas planted with native hardwoods and allowed to develop as floodplain forested wetlands. A minimum of 34.1 acres should be developed to meet the goal of No Net loss of wetland acres by insuring a 1:1 replacement ratio. It should be noted that most compensatory mitigation requirements for impacts to forested wetlands result in a much higher ratio, typically 2 or 3:1.

5.1.2 Mitigation Planning Objective: EPA concurs that impacts to wetlands must be fully mitigated for and that the goal of no-net-loss of function and values should be achieved.

Part 5.5.1 Goals and Objectives: EPA supports each of the 3 objectives listed and in particular the third one; “To support the national objective of no net loss of wetlands in acres and function”. However, the mitigation proposed in the DSEIS fails to meet that objective. Of the 68.7 areas of wetlands reported to occur in the project area footprint, 34.1 acres of forested wetlands will be destroyed leaving 34.6 acres of wetlands, an approximate 50% reduction in wetlands. The proposed mitigation does not replace the wetlands on a per acre basis nor does it adequately offset the loss of function. By blending forested wetlands into the larger Habitat Suitability Index (HSI) model for Floodplain Forest, wetlands become “diluted” and merged in the models 18 various variables. The Habitat Evaluation Procedure (HEP) allows for a combination of variables, which can, depending on the individual metric scores, produce equally high HSI scores. Consequently, it’s possible to “score” an area or mitigation site in such a way that wetlands need not be present to have a high score. While this may be useful for mitigating forested habitat in general it fails to insure that jurisdictional wetlands are adequately mitigated. An independent assessment of jurisdictional wetlands needs to occur in order to insure that wetlands are mitigation for in-kind and not with other forest types.

Appendix L Section 404(b)(1) Evaluation:

Part b. General Description: The description of the environmental features includes the

statement "Specifically, these features include preserving and or rehabilitating approximately 122 acres and reestablishing 33 acres of floodplain forest". The DSEIS part 5.1.1.2 describes the 33 acres as containing 27.1 acres of existing wetlands. To reestablish something means to restore something that no longer exists. Restoration credit cannot be obtained when no gain in wetland acres will occur. As mentioned in our comments above there will be an overall net loss of wetland acres and the methodology for developing mitigation credit is flawed in that it combines jurisdictional waters with non-jurisdictional habitats which cannot be used to discern wetland specific functional loss. At a minimum, wetlands should be replaced at a 1:1 ratio with in-kind wetlands. EPA recommends that 34.1 acres be established in the high flow channel to off set the 34.1 acres destroyed in the creation of the high flow channel. Environmental gains to wetlands from the other forms of mitigation offered (enhancement and long term protection) would provide some environmental lift resulting in No Net Loss of wetland acres and functions.

The 404 evaluation should also include loss of 34.1 acres of wetlands due to excavation of the high flow channel. It focuses only on the 2.4 acres of fill in Mud Gully. All impacts to wetlands, including impacts from excavation, must be fully evaluated as outlined in Section 404(b)(1) of the Clean Water Act.

Placement of excavated materials from the high flow channel is a concern that EPA believes needs more explanation as to where and how it will be disposed of. Part (2) Quality of Material: indicates that the excavated materials would be placed into upland confined PA's, yet a review of the Real Estate Maps showed at least one site (sheet reference #23) designated as a placement area that contains large open water areas with potential for wetlands. EPA recommends that all disposals sites be certified as upland sites with no potential for impacts to aquatic resources prior to commencement of disposal activities.

On-site comments and recommendations:

On January 11, 2012, EPA wetlands staff participated in a site visit with the U.S. Army Corps of Engineers (USACE) at various points along the Clear Creek project site. During the site visit, EPA asked about the proposed earthen channelization of 2.4 miles of Turkey Creek from Dixie Farm Road to the confluence with Clear Creek and earthen channelization of 2.1 miles of Marys Creek from Harkey Road to State Highway 35.

EPA assessed Turkey Creek below the crossing at Beamer Road. In this stream reach, the USACE has designed channel improvements that would require excavation of the entire cross sectional area of the channel and 30 feet on either side of the top of the channel. In this stream reach, the channel has a stable platform with species such as black willow (*Salix nigra*) stabilizing the stream bank. This reach of Turkey Creek is meandering with log riffles and appears to have good aquatic function. EPA questions why the USACE would not design this stream reach similar to the Clear Creek channel with overflow channels and limited disturbance of the low flow channel.

EPA does not support disturbance of the entire channel and adjacent riparian and wetland habitats. Excavation, ground disturbance, and channelization below the road crossings will result

in active soil erosion and sedimentation buildup in the channel that would require future maintenance. The newly excavated channel would erode and form a meandering low flow channel that would need to be straightened to maintain the current channel design.

In light of these known fluvial processes, EPA recommends that the USACE consider redesigning portions of the stream reaches (Marys and Turkey Creek) to function much as the Clear Creek improvements with an undisturbed low flow channel with overflow channels on each side. The overflow channels should be planted in native woody species to maintain a continuous riparian and wetland corridor. The low flow channel should be planted in dense woody vegetation to maintain channel stability and improve water quality and wildlife habitat functions.

Air Quality

EPA encourages the use of clean, lower-emissions equipment and technologies to reduce pollution. EPA's final Highway Diesel and Non-road Diesel Rules mandate the use of lower-sulfur fuels in non-road and marine diesel engines beginning in 2007.

Greenhouse Gas Emissions(GHG)

Approximately 278 acres of floodplain forest within the riparian corridor of Clear Creek would be directly impacted by construction of the flood risk management measures. By statutes, Executive Orders, and agency policies, the Federal government is committed to the goals of energy conservation, reducing energy use, and eliminating or reducing greenhouse gas (GHG) emissions. A natural carbon sink is also being impacted. Due to the proposed project's long-term utility, EPA recommends the FEIS include a more detailed discussion of GHG emissions and climate change. The FEIS should include an analysis of the natural carbon removal process that would be lost if the proposed project is constructed and how that would contribute to the overall greenhouse gas emissions for the life of the project. For guidance, please see CEQ's "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" dated February 18, 2010.